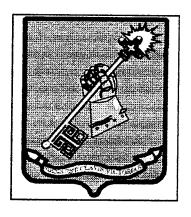
HEAVY BRIGADE COUNTERRECONNAISSANCE ADEQUACY IN CONVENTIONAL OPERATIONS

A Monograph by

Major Russell H. Rector Armor





School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

First Term AY 94-95

Approved for Public Release; Distribution is Unlimited



REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave bla		3. REPORT TYPE AND	DATES COVERED
4. TITLE AND SUBTITLE	15 DEC 1994		5. FUNDING NUMBERS
HEAVY BRIGADE CO	, OUNTERRECONNAIS	SANCE	S. FUNDING NUMBERS
ADEQUACY IN CO			
6. AUTHOR(S)			
MAJOR RUSSE	LL H. KECTOR		
7. PERFORMING ORGANIZATION	NAME(S) AND ADDRESS(ES)		B. PERFORMING ORGANIZATION
SCHOOL OF ADVI	ANCED MILITARY	STUDIES	REPORT NUMBER
	RTH, KANSAS		
TORT CENTERONO	2177 111100A3	40027	
	•		
9. SPONSORING/MONITORING A	GENCY NAME(S) AND ADDRESS(ES)	10. SPONSORING / MONITORING AGENCY REPORT NUMBER
			AGENCY REPORT NOWIDER
11. SUPPLEMENTARY NOTES			
12a. DISTRIBUTION / AVAILABILITY	STATEMENT		12b. DISTRIBUTION CODE
APPROVED FOR T	TIME RELEASE		
DISTRIBUTION UP	EMETED.		
13. ABSTRACT (Maximum 200 woi	rds)		
All Mon	ograph		
	O		
]
14. SUBJECT TERMS Co いんて	ERRECONNAISSAN	CE	15. NUMBER OF PAGES
SECURITY OPERATIONS			16. PRICE CODE
TENETS OF COU	NTERRECONNAIS	SANCE	10. FAICE CODE
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	ATION 20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to stay within the lines to meet optical scanning requirements.

- Block 1. Agency Use Only (Leave blank).
- **Block 2.** Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.
- Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g. 10 Jun 87 30 Jun 88).
- Block 4. <u>Title and Subtitle</u>. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one yolume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.
- Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C - Contract G - Grant PR - Project TA - Task

PE - Program Element WU - Work Unit Accession No.

- **Block 6.** <u>Author(s)</u>. Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).
- **Block 7.** <u>Performing Organization Name(s) and Address(es)</u>. Self-explanatory.
- **Block 8.** <u>Performing Organization Report</u> <u>Number</u>. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.
- **Block 9.** Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.
- **Block 10.** Sponsoring/Monitoring Agency Report Number. (If known)
- Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. <u>Distribution/Availability Statement</u>. Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."

DOE - See authorities.

NASA - See Handbook NHB 2200.2.

NTIS - Leave blank.

Block 12b. Distribution Code.

DOD - Leave blank.

DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.

NASA - Leave blank. NTIS - Leave blank.

- **Block 13.** Abstract. Include a brief (Maximum 200 words) factual summary of the most significant information contained in the report.
- **Block 14.** <u>Subject Terms</u>. Keywords or phrases identifying major subjects in the report.
- **Block 15.** <u>Number of Pages</u>. Enter the total number of pages.
- Block 16. Price Code. Enter appropriate price code (NTIS only).
- Blocks 17.-19. <u>Security Classifications</u>. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.
- Block 20. <u>Limitation of Abstract</u>. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

SCHOOL OF ADVANCED MILITARY STUDIES MONOGRAPH APPROVAL

Major Russell H. Rector

Title of Monograph:	Heavy Brigade Counte:	rreconnaissance
	Adequacy in Convention	onal Operations
Approved by:		
LTC Russell W. Glenn	, MSSM, MSCE, MSOR, ME	Monograph Director MAS
COL Gregory Fontenot	Let, MA, MMAS	Director, School of Advanced Military Studies
Philip & Brow	hen	Director Craduate
Philip J. Brookes, P		Director, Graduate Degree Program

ABSTRACT

Heavy Brigade Counterreconnaissance Adequacy in Conventional Operations by MAJ Russell H. Rector, USA, 60 pages.

This monograph finds that the US heavy brigade is inadequately prepared in peacetime to perform counter-reconnaissance against the potential adversaries it may face on the modern battlefield. Winning the fight for information has been essential to victory throughout history and remains so today. We are not winning that fight. Examination of NTC take home packages, ARTEP evaluations, commanders training summaries and other independent reports indicate serious weaknesses exist in counterreconnaissance doctrine, organization and training.

The monograph introduces nine counterreconnaissance tenets that form the core of success in the information battle. These are: asset sufficiency, priority, asset integration, depth, deception, discipline, task responsibility, command involvement and unity of command. Historical examples from the age of Napoleon through World War II demonstrate their significance. Current US doctrine, organization and training violates nearly every one.

Finally, the monograph provides some insight into how the US Army may correct these deficiencies. It does not recommend increased structure or operational tempo. It does advise using current assets more efficiently and offers the framework to do so.

Accesio	n For	
NTIS CRA&I DTIC TAB Unannounced Justification		
By Distribution /		
Availability Codes		
Dist	Avail and/or Special	
A-1		

Table of Contents

			Pag	е
I.	In	troduction	•	1
		Nine Counterreconnaissance Tenets	. !	5
II.	Hi	storical Background	. 8	8
		Ulm (1805)	. 8	3
		France (1940)	. 11	L
		Kursk (1943)	. 15	5
III.	Th	reat Model Reconnaissance Doctrine, Organization and Tactics	. 18	3
IV.	US	Counterreconnaissance Doctrine, Organization and Training	. 24	Į.
v.	Co	nclusions	. 40)
App. 1	l Red	connaissance Task List and Asset Utilization Matrix	. 44	ļ
App. 2	2 Coi	unterreconnaissance Task List and Asset Utilization Matrix	. 45	
Endnot	tes	•••••••••••••	. 46	;
Biblic	ograpl	hy	. 52	!

I. Introduction

The whole art of war consists of getting at what lies on the other side of the hill, or in other words, in deciding what we do know from what we do not.

The Duke of Wellington

Throughout Sun Tzu's <u>The Art of War</u>, a common theme crops up concerning relationships in conflict.

Relationships exist between good and evil, light and dark, war and peace, ignorance and enlightenment. A similar relationship exists between reconnaissance and counter-reconnaissance. They are different sides of the same conflict. That conflict is the battle for information.²

Reconnaissance is the search for information; as such it is a critical combat function. The commander who can see "what lies on the other side of the hill" possesses a distinct advantage over his enemy.

Accurate, timely information continues to be the key to winning on the modern battlefield just as it has been for centuries. There is a positive relationship between the effectiveness of reconnaissance and intelligence. We are reminded by the military theorist Clausewitz that: "No other human activity is so continuously and universally bound up with chance." It is chance that causes the commander to seek out the best information possible. According to Richard Simpkin, "Ultimately, the quality of information determines the degree of real tactical risk." Effective reconnaissance reduces

uncertainty, thereby allowing prudent risk on the battlefield. It opens the door to a wide variety of possibilities.

FM 100-5, Operations, lays out nine principles of war that form the bedrock of US Army doctrine. Fundamental to operating successfully across the full range of military operations is an understanding of the army's doctrinal foundations—the principles of war. They have endured the test of time since 1921 with little refinement. The fight for information is simply the precursor to optimize performance by applying these principles of war.

Thorough reconnaissance enhances any army's ability to apply these principles judiciously. Reconnaissance allows surprise and the ability to bring strength against weakness. Armies must first discern whether a potential objective is attainable prior to selecting it. An army also needs information to maneuver effectively and to know where to risk/conduct economy of force operations. Reconnaissance is essential in preventing the enemy from gaining an unexpected advantage (surprise). The first step toward seizing the initiative in any offensive or defensive operations is effective reconnaissance.

Effective counterreconnaissance will deny a potential enemy the information he requires to see our "side of the hill." A successful counterreconnaissance effort forces an adversary to gamble on the battlefield rather than taking prudent risk, thus enhancing friendly

force opportunities for success.

Russians and Ukrainians share the American appreciation of the magnitude of winning this reconnaissance/

The conditions of modern combat, characterized by great maneuverability and by rapid and drastic situation changes, have further enhanced the role and importance of reconnaissance. Moreover, a modern confrontation of adversaries roughly equal in quantity and quality of weapons constitutes a struggle primarily to attain superiority in battlefield reconnaissance, since victory will be gained by the side that can first locate and hence destroy the most important enemy objectives. In other words, in order to defeat (the enemy) it is necessary not only to have the weapons needed for his destruction, but also to know exactly where he is, what he is doing, what is the nature of his fieldworks, and what he intends to do.

R.G. Simonyan and S.V. Grishin⁷

This monograph focuses on the counterreconnaissance portion of the reconnaissance/counterreconnaissance conflict. It will determine if US heavy brigades are capable of effectively countering the reconnaissance efforts of highly efficient potential adversaries. Adversaries, such as the Russians and Ukrainians, possess ground reconnaissance assets trained and equipped to penetrate a US heavy brigade counterreconnaissance screen.

Current US brigade level counterreconnaissance capability needs improvement. To develop this thesis, this monograph introduces nine tenets of counterreconnaissance and provides a brief summary of their genesis. Three historical examples depict where the conflict between opposing reconnaissance and counterreconnaissance

capabilities resulted in dramatic successes or defeats.

These historical examples demonstrate the tenets as the critical initial elements in success or failure.

Following these historical reviews, a brief discussion surveys the current Russian and Ukrainian ground reconnaissance capabilities. A review of the credibility of the US Opposing Forces (OPFOR) reconnaissance capability at the National Training Center (NTC) to replicate these threat models sets the stage for examining our own counterreconnaissance assets.

In addition to NTC experience, US counterreconnaissance capability could be tested through wartime experience. This monograph discounts Desert Storm experience. Although the Iraqis were partially Soviet-trained and equipped, they did not pose an analogous threat. The Iraqis were not a valid test of US counterreconnaissance capability.

The next section of the monograph summarizes the serious weaknesses in the US Army's counterreconnaissance doctrine, organization and training as has been discussed in a number of reports. These flaws in doctrine, organization, and training come to the surface not only at the NTC, but through ARTEP evaluations and commanders' summaries of unit training performance at home station.

The monograph concludes by restating and answering the thesis question: Are US heavy brigades adequately prepared to perform counterreconnaissance? It also offers possible alternatives and enhancements for current doctrine,

organization and training techniques. Finally, this section reviews the nine tenets of counterreconnaissance and recommends that they be considered during any future modification of doctrine.

The nine tenets of counterreconnaissance emanate from summaries of take home packages of brigades from the NTC, a 1988 RAND Report and the results of a General Officer Executive Committee (GOEC) assigned to evaluate counterreconnaissance in 1990. Training summaries from commanders' evaluations corroborate them as do ARTEP evaluations. History demonstrates their validity. They apply to all levels from battalion through corps.

Asset Integration concerns using all available assets. The GOEC found battalions frequently used scouts on counterreconnaissance screen lines without augmentation. On the opposite end of the spectrum, when units used a combination of scouts, maneuver units, FA, mortars, COLT teams, GSRs, IEW units and engineers, they were successful in preventing enemy reconnaissance units from penetrating the counterreconnaissance screen line. 11

<u>Command Involvement</u> pertains to using all available expertise in the counterreconnaissance fight. Often, the night TOC officer supervises the fight instead of the primary staff and commanders. Lack of expertise caused recurrent hesitation to make appropriate decisions. 12

<u>Discipline</u> was noted by observer/controllers as another deficiency in counterreconnaissance at the NTC. Take home

packages indicate lack of discipline (eg. sleeping during operations) as a primary reason OPFOR reconnaissance elements get through to fulfill their missions. 13

Responsibility for conducting counterreconnaissance should be broken down into two components: surveillance and hunter/killers. The GOEC study found that one unit fulfilling both jobs of finding and destroying enemy reconnaissance patrols allowed trailing enemy units to identify and avoid the location of screen line OPs easier. Two separate elements (one surveillance and the other the hunter/killers) slows enemy reconnaissance. 14

Unity of Command provides a single commander for more efficient coordination of lookers and killers while simultaneously preventing fratricide. In 1987, RAND found that lack of coordination by friendly counterreconnaissance units allowed a greater number of OPFOR reconnaissance units to penetrate brigade and battalion screens when no single commander and staff coordinated their efforts. 15

Asset Sufficiency concerns having enough surveillance and hunter/killers to cover the counterreconnaissance screen area. The GOEC study recommends the counterreconnaissance screen sector be layered to meet a layered enemy reconnaissance effort. It recommended a heavy company team for both battalion and brigade counterreconnaissance screens each. Scout platoons could only provide OPs for approximately 1/2 a battalion frontage for 24 hours or 1/3 the frontage for sustained operations in a single layer. 16

Take home packages indicate that highly successful battalions use up to a light company team as surveillance with the scouts and a heavy company team as the hunter/killers. 17

<u>Depth</u> closely associates with asset sufficiency.

Depth affords counterreconnaissance units time. Additional time allows fewer assets to find and destroy enemy reconnaissance. Expanded assets conversely lessen reaction time. 18

<u>Priority</u> involves focus. O/Cs explain that units conducting counterreconnaissance are given too many other missions to accomplish simultaneously. Priority also concerns choosing which friendly assets to protect from observation first and which to allow the enemy to see. 19

<u>Deception</u> includes manipulating what the enemy sees. Invariably enemy reconnaissance units will get through the screen. Friendly forces will not know this. Deception is the last line of defense in this case. Moving the main body prior to contact is another form of deception. Two factors are at work in counterreconnaissance deception. The first is an effort to portray false information. The second is to insure that accurate information is not timely.²⁰

History demonstrates these counterreconnaissance tenets time and again. The following examples demonstrate a direct causal relationship between the fight for information and success or failure in the subsequent battle. The tenets provide a basis for understanding why a unit enjoyed success or suffered defeat.

II. Historical Background

There is typically a battle which precedes the battle -- a confrontation of opposing reconnaissance units -- and the winner of that preliminary battle is most often the victor in the main event.

LTG E.S. Leland²¹

History is replete with examples in which the fight for information was the linchpin of victory for the side which both gained required battlefield information and denied the enemy the same. Three examples demonstrate many of the counterreconnaissance tenets: Murat's cavalry screen early in Napoleon's Ulm campaign (7-14 October 1805), the French during the German blitzkrieg of 1940, and the Soviets on the eastern front at Kursk in 1943.

The Ulm campaign of 1805 began with the traditional Napoleonic closure of French borders and resultant cessation of normal information flow from France to the rest of the world. The first campaign moves were the launching of Lannes Vth Corps and Murat's Cavalry Corps across the Rhine and into the defiles of the Black Forest on the 27th of September 1805. The Austrians under General Mack were deliberately allowed to hear of these moves via civilians and from those patrols the French allowed through their screening forces. The deception had begun. Shortly after entering the Black Forest, the French Army moved north.

Murat's Cavalry Corps continually interposed itself

between Austrian patrols and the dispersed routes of the French Corps. The single largest body the Austrians had to observe was Murat's cavalry screen. Had the Austrians penetrated Murat, Ney's Corps was behind him in depth and would have looked like Napoleon's main body. Murat was still the only corps within observation or weapons range of Mack's Austrian main body. 23

Murat's use of dispersed mobile observation posts reinforced with squadrons behind them provided further depth of counterreconnaissance capabilities and prevented Mack's cavalry patrols from penetrating the screen. Mack became transfixed by the French counterreconnaissance screen. 24

As Mack's forces positioned themselves around the city of Ulm, the vast preponderance of his reconnaissance effort was focused north and west of the city against Murat. This was precisely what Napoleon desired, for it gave him an opportunity to envelop Mack's entire army. Murat's screen held the attention of Mack while Napoleon maneuvered to envelop Mack from the northeast, east and southeast.

The tenacity with which the French forces repelled any Austrian attempt to penetrate their counterreconnaissance screen caused two things to happen. First, the denial of information paralyzed the Austrians. Second, the efforts of Murat to prevent Mack from gaining information caused Mack to falsely assume he was facing the main body of Napoleon's army positioned somewhere behind

this impenetrable screen and that movement on his part was not yet warranted. Napoleon's corps actually were approaching him from a different direction. 26

The previous excerpt demonstrates six of the nine tenets of counterreconnaissance. Units placed in the counterreconnaissance screen had no other mission than to preclude Austrian reconnaissance patrols from penetrating their screen. Murat's cavalry corps provided plenty of space to destroy reconnaissance units before they came into observation range of Ney's corps. Murat's regimental commanders coordinated the actions of surveillance and the killers. Mobile dispersed OPs provided surveillance while the killers were the squadrons in position behind them. An entire cavalry corps provided sufficient counterreconnaissance assets. The use of Ney's corps behind the screen displayed enough of the trappings of a main body to provide any patrol that happened upon it with false information. The use of such a large screen and the existence of another corps behind the screen combined to make the deception credible to General Mack.

The inability of Mack to gain accurate information necessary for him to determine the location of Napoleon's main body paralyzed him. By the time he realized the predicament he was in, it was too late. Mack surrendered his encircled force of 25,000 Austrian infantry, 2,000 cavalry and numerous small arms and guns on 15 October 1805.²⁷ The next example involving the French was not to

be so propitious.

The onslaught of mechanization in the Second World War placed even greater emphasis on timely and accurate reconnaissance. Security lay in the ability of mechanized forces to remain in motion. For these mobile forces to keep from blindly colliding with enemy forces, they not only had to see enemy, but they had to see him at greater range than at any time previously. Recon units had to report information in near real time to be of any use.

General Heinz Guderian, in his <u>Armored Forces</u> (1937), echoed the observations and conclusions of his Prussian ancestors:

Reconnaissance calls for highly mobile, flexible, and easily handled units that possess a wide radius of action and good means of communication. Reconnaissance forces must observe and report to a maximum, without being observed themselves. Therefore, the smaller the reconnaissance element and the more readily it lends itself to concealment, the easier the accomplishment of its mission will be. 28

At the outset of the battle for France in World War II, the German Army fielded small reconnaissance units able to move and report quickly. The success of the Blitzkrieg depended on the tank, the airplane, and the radio-equipped reconnaissance and command and control units that Guderian pioneered. 29

Numerous examples of motorcycle equipped scouts providing critical information from deep behind enemy front lines allowed German spearheads to exploit gaps in French defenses before the defenders could react:

German knowledge [gained by their recon units] of the enemy positions in the Ardennes and along the Meuse was quite comprehensive-and generally encouraging to them. They realized from extensive reconnaissance by every possible means, that the defenses were shallow and, in places incomplete.

In places where the French were able to interpose counterreconnaissance forces between the German spearheads and the French main body, German recon units still got through.

At the River Semois on 11-12 May 1940, a French cavalry division was given the mission to prevent German reconnaissance units from crossing the river or securing the Longwy Bridge. The French were equipped with both halftracks and tanks superior to anything found in either the German recon units or the main armored spearheads themselves. Given these advantages, the French counterreconnaissance screen faltered then gave way altogether. 31

The French did not dismount any OPs despite the proximity of small German recon units. They also attempted no deception and had a difficult time coordinating artillery fire against the enemy reconnaissance units they did identify. As a result, German reconnaissance traversed the river unimpeded. They later returned and were able to direct infantry across the river below the Longwy Bridge who subsequently took the bridge from the French side. 32

The French had somewhat better success from the 6th through the 8th of June 1940 at another river between

Chateau Porcien and Attigny. French counterreconnaissance screens prevented German scouts from penetrating the river line for three days. They did so through the integrated use of a surveillance line reinforced with a company of medium tanks. A single battalion commander was in charge.

Interestingly, an unattached scout platoon rested idly throughout the time. Finally, on the 9th, the Germans fought through the French counterreconnaissance units. 33

Using heavy artillery and Stuka attacks, coupled with a dismounted infantry assault supported with tank fire acting as a feint, motorcycle and dismounted recon patrols infiltrated across the river line. A gap was found four hours after the recon units penetrated the river line. Within two hours the Germans had seized a bridgehead and the counterreconnaissance screen collapsed. The main defensive belt behind the river had not been completed before Rommel's armor of the 7th Panzer Division poured through. There is no evidence that a deception plan existed. 34

The French disaster of 1940 illustrates eight of nine counterreconnaissance tenets. French priority focused on using combat forces to defend against the German spearheads rather than in stripping away their reconnaissance units. 55 Some halftracks and their crews at Semois were captured intact on the night of 11 May 1940. They were found asleep. The French screens had insufficient depth to allow them time to destroy enemy reconnaissance elements. At Chateau Porcien, Rommel's 7th Panzer Division poured

straight into the incomplete French defenses. The French never attempted to deceive the Germans of its location.

Although the French possessed high quality electronic intercept and direction finding equipment, they never integrated these assets into their counterreconnaissance plan. There was no indication that the French formally set up a separation of tasks between OPs and killers. At the River Semois the French emplaced no OPs at all. The French used insufficient assets to prevent German reconnaissance units from penetrating their screen lines. The only indication of the French applying command and staff involvement and unity of command to counterreconnaissance was the battalion commander specifically assigned the counterreconnaissance mission at Chateau Porcien.

The armistice of 22 June 1940 at Rethondes bears witness to the superiority of a sophisticated synchronization of combat power by the Germans over the French. The success of the Germans to coalesce combat power was in large measure due to their incessant ability to get reconnaissance units through the failed French counter-reconnaissance screens. This same lesson was eventually learned by the Soviets as they demonstrated in 1943 at the battle of Kursk.

The entire experience of the Great Patriotic War, both of some failed operations at its beginning and of successfully conducted ones in its subsequent periods, showed convincingly that success in battle depends first and foremost on how carefully the enemy has been reconnoitered and how accurately and reliably fire has been delivered on the major

objectives and targets of his defense.

Marshall of the Soviet Union S.L. Sokolov³⁸

Even as the Soviet Army was struggling to transform itself into the modern mechanized force envisioned by both Triandafillov and Tuchachevskiy, it suffered a disastrous defeat at the hands of the German Army. A strategic and operational intelligence failure combined with abysmal tactical counterreconnaissance nearly destroyed the Soviet Army in the opening battles of Operation Barbarossa. 39 Marshal Sokolov and others recognized the necessity of preventing the enemy from seeing the battlefield. Learning how took time.

It wasn't until 1943 that the Soviets really learned how to accomplish counterreconnaissance on a large scale. By the 20th of February 1943, the Kursk salient had been formed as a result of a huge Soviet counterattack to crush what seemed to be a German retreat. This bulge was 100 miles across and 80 miles deep with Kursk at its center. The Germans created the salient in an effort to cut off and destroy the Army Groups of Marshals Golikov and Vatutin. The Germans finally launched their attack on 4 July 1943.

The four and a half months had given the Soviets time enough to discern the preparations for the German offensive, create the largest counterreconnaissance screen of the war and establish a formidable anti-tank/mechanized defense.

Soviet reconnaissance units identified large German armor

preparations on both the north and south bases of the salient as early as March.⁴¹

The Soviet plan was brilliantly simple. They envisioned a deep counterreconnaissance screen of 6 to 10 miles on each flank. They backed this area up with 6 main defensive belts extending another 20 miles deep per flank. Each defensive belt contained primarily infantry with AT weapons covering massive minefields and obstacle belts. The deception plan called for displaying the screen area as the main battle area with weaker flanks and a strong front in the salient. Armored counterattack forces were kept out of the salient and over 40 miles from the front lines in any direction to prevent detection. 42

Initially, German recon units penetrated the counterreconnaissance screen. By April the Soviet screen tightened
its grip and few German recon units penetrated further than
6 to 7 miles. The Soviets employed a vast array of OPs
backed by mobile halftrack response forces carrying infantry
and AT teams. These surveillance/killer teams primarily
focused on small lightly armed dismounts and motorcyclemounted reconnaissance units. The saturation of the
counterreconnaissance screen area insured that few enemy
recon units made it through undetected. 43

For every OP that manned the screen lines in depth, replacement teams were available when enemy contact was made. Once contact was made, it was maintained until the enemy was destroyed. As OPs moved to maintain contact with

the enemy they were replaced. Communication was accomplished by landline, radio and pyrotechnic signals. To reduce response time, halftrack teams were usually found within a few hundred meters of the OPs and were themselves members of the same units as the OPs.44

A second counterreconnaissance belt was found between 1000 and 2000 meters behind the first. It was dug in and portrayed a false main defensive belt position. Soldiers in this belt frequently never knew they were part of the counterreconnaissance screen.⁴⁵

When the attack came, German armor units were slowed and quickly stripped of their accompanying infantry. By the time the armor hit the main defensive belt, it was hopelessly overextended and fell prey to numerous Soviet tank formations. Nineteen days' fighting at Kursk saw 1,807 of nearly 3,000 German tanks destroyed and 70,000 dead along with the last chance for victory in Russia. 47

Every counterreconnaissance tenet was visible at Kursk. The sheer scope of the counterreconnaissance screen displays its priority. The deception plan enticed the Germans to continue with an attack they desired to conduct anyway. The ten mile screen depth gave ample opportunity to destroy German reconnaissance units. The Soviets effectively integrated all arms in the counterreconnaissance screen to include limited IEW assets and massive engineer efforts. A single commander held responsibility for both

surveillance and killers in each sector. That so few German reconnaissance units penetrated the screen after April 1943 indicates that sufficient assets were made available, adequate expertise supervised the execution of the screen, and discipline had improved. Guderian remarked that after April, fewer POWs were captured during reconnaissance missions than February or March. 48

Soviet counterreconnaissance, coupled with successful deception, denied the Germans the information they needed to devise a prudent plan. Consequently, their attack at Kursk was a gamble at poor odds. 49 Guderian commented after the war that Kursk, "...damaged the German Army to an irreparable degree and the loss of the war dates from this defeat even more than from that at Stalingrad." 50

The experience of the Great Patriotic War taught the Soviets the connection between the fight for information and success in battle. Both Ukrainian and Russian current doctrine cite reconnaissance as "the most important type of combat support." If the US Army expects to defeat an enemy, it must first defeat their reconnaissance effort. The first step in defeating an adversary's reconnaissance capability is to understand it.

III. Threat Model Reconnaissance Doctrine, Organization and Tactics

Does the US Army need a new threat model against which to test current counterreconnaissance doctrine, organization and training? According to the Foreign

Military Studies Office (FMSO) at Fort leavenworth, the Russians and Ukrainians still possess the most capable reconnaissance force to use as a threat model. FMSO gives three reasons why we should not abandon the old Soviet model for training purposes.

First, the emerging Russian and Ukrainian model poses the most challenging threat the US might expect to meet. By training to beat the best, the overall readiness and competence of the force improves. Second, other antidemocratic nations, trained on the Russian or Ukrainian models, often have goals and ambitions inimical to those of the United States. These nations lack the virtually unlimited resources of the old Soviet military, yet they remain credible threats. (FMSO put Cuba and North Korea in this category, but cautions that their political futures are more uncertain than was the Soviet Union's in 1989.)

Finally, the US army cannot afford the drain in resources needed to reinvent a threat annually or train exclusively against a second string opponent. 53

The NTC OPFOR represents a first string opponent. They are well versed in emerging Russian and Ukrainian doctrine and are fully capable of executing it at regimental level. Although Operation Desert Storm pitted coalition forces against a partially Soviet-trained and partially Soviet-equipped force, the defeat of the Iraqi Army was hardly the defeat of the Soviet methodology. Two Desert Storm commanders felt the NTC OPFOR was a harder test than the

Iraqis.55

Even though geopolitical and economic circumstances have markedly changed our relationship with the successor states of the USSR, we do not need a new threat model. To continue to use the doctrine, organizational structure and tactics of the two largest and most powerful of these states, Russia and the Ukraine, provides a valid framework for US understanding of counterreconnaissance operations. This can be done without antagonism, but rather with professional respect, a sense of tactical deterrence and, even interoperability. 56

FMSO published an interesting piece from the Commonwealth of Independent States' viewpoint that indicates a shift in the importance the Russians and Ukrainians view reconnaissance and counterreconnaissance today. Due to economic exigencies, the proliferation of precision guided munitions, and the revolutionary social and political changes now underway in the former Soviet Union, the Russians and Ukrainians are incorporating more defensive topics into their military study and analysis. They also found the means to place more resources into US security zones.

No longer are second echelons a viable means to carry the fight throughout the depth of the battlefield. Within the new paradigm for non-linear warfare, the Russians realized that advantages accrued most to echelons that could

quickly close with the enemy, thus potentially rendering the enemy's high precision weapons less effective. 58

This description of tactical combat in future war by V.
Reznichenko significantly alters the traditional concept of
echelonment. From this thinking came the concept of the
land-air battle:

One can propose that, under the influence of modern weapons and the great saturation of ground forces with aviation means, the combat formation of forces on the offensive is destined to consist of two echelons—a ground echelon whose mission will be to complete the penetration of the enemy defense and develop the success into the depths, and an air echelon created to envelop defending forces from the air and strike blows against his rear area.

The concept of the land-air battle requires greater information than ever, for now there will not be the luxury of numerous ground echelons with which to pressure the entire front to find and exploit weakness. Weakness must be both found and exploited by a single echelon. Aerial envelopment will succeed only with the effective choice of targets in the enemy's rear. With this in mind the Ukrainians are experimenting with a larger ground reconnaissance element.

A restructuring of the Motorized Rifle Battalion (MRB) faces two challenges: a reduction of main body signature and an increase of the number of reconnaissance units to saturate an enemy security zone. Main body size will be slightly reduced. The Combat Reconnaissance Patrol (CRP) becomes a reconnaissance company and the forward security element gets larger by one platoon. (The elimination of

some second echelon regiments may provide the available force structure, but this is unconfirmed.) Taktika (1991) describes this organization as the "battalion tactical group." The addition of another reconnaissance company presents a greater challenge to counterreconnaissance screens.

Both Russian and Ukrainian doctrine uses a special term that incorporates the correlation between reconnaissance and intelligence: Razvedka. It is a requirement from the lowest level to the highest and all efforts are directed toward a common goal. This activity is responsible for obtaining and analyzing information about the enemy before and during the battle. 61

Razvedka is run by a Chief of Reconnaissance who is on a level equal with the operations officer at both the regimental and divisional level. Ground reconnaissance forces at his disposal include a divisional reconnaissance battalion, a regimental reconnaissance company and now perhaps even a battalion reconnaissance company, if fielded. These will be augmented by advanced guard forces if a situation dictates forming penetrations through which reconnaissance can be passed. 62

Reconnaissance units will not be expected to perform security duties. Security duties are performed by elements of the advanced guard from the parent tank or motor rifle formation that will move in conformity to the main body. These are the elements that will fight to protect the main

body, not reconnaissance units. 63

There exists a hierarchy or precedence by which reconnaissance elements are infiltrated into and through an enemy security zone. Individual reconnaissance teams (2-6 soldiers) are the focal point of all reconnaissance. All supporting efforts are designed to infiltrate them. Reconnaissance teams usually ride in scout cars (BRDMs) or on motorcycles. BMPs or AFVs are assigned to assist scout car and motorcycle penetration. If necessary, tanks will come to the aid of the BMPs or AFVs. The tanks' role is to assist the infiltration of the BMPs or AFVs. Situations may arise in which combat formations (non-reconnaissance) will be assigned missions to assist reconnaissance elements. 64

Both Russians and Ukrainians layer their reconnaissance. Division reconnaissance infiltrates deepest--to about 100 kilometers. Regimental reconnaissance will try to accomplish missions to a depth of 50-60 kilometers and now battalion reconnaissance will attempt to reach objectives up to 25 kilometers deep. Time lines are 48, 24 and 12 hours in advance of the lead echelon main body for divisional, regimental and battalion reconnaissance units respectively. 65

The layering effect of the different levels of reconnaissance and the priority which Russian and Ukrainian doctrine places on infiltrating their reconnaissance elements signifies that we will likely have to contend with

an even greater counterreconnaissance battle than previously if facing the Russians, Ukrainians or their understudies in combat. Given the increased emphasis placed on Russian and Ukrainian reconnaissance efforts, we must reexamine our own means to counter this threat.

IV. <u>US Counterreconnaissance Doctrine</u>, <u>Organization and Training</u>

A recent RAND Corporation study of 113 battles at the National Training Center (NTC) indicates that serious weaknesses exist in the US Army's counterreconnaissance doctrine, organization, and training. The study concludes that a significant factor in OPFOR success was effective reconnaissance.

NTC Observer/Controllers developed a reconnaissance task list specifically for the RAND study that included tasks generally equated to brigade, OPFOR regimental, and battalion commanders' priority information requirements (Appendix 1.). RAND calculated the fraction of reconnaissance tasks accomplished for an attack and compared it with the rating given the mission by the O/Cs (Table A). For example, 18% of the units who accomplished less than 20% of their reconnaissance tasks received a mission rating of 1 (unqualified failure). Accomplishing 20 to 40% of reconnaissance tasks assigned was the midpoint between subsequent mission success and failure. The correlation between successful reconnaissance and subsequent mission success is quite pronounced. This data incorporates both

OPFOR reconnaissance versus US counterreconnaissance and vice versa. 67

Fraction of Recon	Mission Rating		
Tasks Accomplished	1 2 3 4 5		
0 - 20%	18 50 21 11 0		
20 - 40%	13 29 29 29 0		
40 - 60%	0 27 28 45 0		
60 - 100%	**** none **** 0		

Table A. Subsequent Mission Success VS Reconnaissance Success (all battles)

Mission Rating 1 = Unqualified failure

Mission Rating 2 = Unsuccessful with major
deficiencies

Mission Rating 3 = Partial success with major
deficiencies

Mission Rating 4 = Success with minor deficiencies

Mission Rating 5 = Unqualified success

The correlation between OPFOR reconnaissance success against US counterreconnaissance and subsequent OPFOR mission success was even more pronounced. In a sample population of 33 OPFOR regimental attacks, the OPFOR both accomplished a large fraction (40-60%) of the recon tasks listed at Appendix 1 and answered a majority of the commander's PIRs 28 times. The OPFOR attained success with minor deficiencies or unqualified success 26 of these 28 times. In the remaining five battles, the OPFOR reconnaissance effort accomplished only a small fraction (0-20%) of their tasks. The consequent regimental attack failed each time. §8

Two conclusions can be drawn from the data from these 113 battles. First, reconnaissance is a significant key to victory in battle. Second, OPFOR reconnaissance at the NTC

consistently defeats US counterreconnaissance screens. O/Cs offer some interesting explanations why US counterreconnaissance screens fail.

The reasons for failure cited by NTC representatives demonstrate many violations of the nine tenets of counterreconnaissance. US scout platoons were either too thin on the ground (asset sufficiency) or too busy with other missions to prevent successful OPFOR reconnaissance infiltration (priority). Units augmenting the scouts consistently arrived after the OPFOR reconnaissance penetrated the screen (asset integration). US infantry often failed to patrol beyond the immediate vicinity of their battle positions and vehicle crewmen were frequently found asleep (discipline). Battalions rarely patrolled behind the counterreconnaissance screen or attempted deception measures against the OPFOR (depth & deception). Often the scouts were assigned both the mission to identify and to destroy enemy reconnaissance. instances when there was a separation of OPs and killers, units had difficulty coordinating their efforts for lack of a single commander for both elements (unity of command). 69 Rarely did the OPFOR need to begin an attack with inferior information.

Clearly, performance at the National Training Center demonstrates deficiencies in US Army doctrine, organization, and training to defeat a reconnaissance threat similar to

that of the OPFOR. Yet this is not the only indicator of US counterreconnaissance deficiencies.

In August 1988, the TRADOC commander directed the US Army Combined Arms Center (CAC) to conduct a reconnaissance, surveillance and counterreconnaissance assessment. CAC organized a General Officer Executive Committee (GOEC) to address this task and defined the problem as: "Observations and comments by field commanders throughout the Army indicate an inability of our battalions and brigades to routinely conduct adequate reconnaissance, provide adequate force security, and defeat enemy reconnaissance forces. Our battalion and brigade maneuver forces are not winning the reconnaissance/security battle." 70

The study which CAC completed in early 1990 found that counterreconnaissance planning at division level and below was deficient. Battalion level counterreconnaissance planning did not commit sufficient organic assets or synchronize their effects. Staffs rarely included deception as part of the counterreconnaissance plan, nor did they plan adequate depth for the counterreconnaissance screen.

Battalion scout platoons frequently ran short of assets and time needed to accomplish tasks assigned them by the battalion staff. The staff of the counterreconnaissance screen battalion staff.

The picture was even bleaker at brigade level. When brigades attempted to execute a comprehensive counter-reconnaissance plan, they did not effectively integrate

battalion assets with available brigade assets. The staff officer orchestrating the counterreconnaissance execution was usually the night TOC officer. This was frequently the junior officer on the operations staff. This officer was often ill-trained and incapable of synchronizing the variety of assets needed to maintain contact with a single enemy reconnaissance target then pass it off to another asset to destroy it. This became even more complicated when multiple targets appeared. 73

The study also noted other deficiencies in our counter-reconnaissance training, force structure and equipment. The GOEC found that doctrine did not address what specific organization within the brigade should perform counter-reconnaissance. Although the report did not state unequivocally that the lack of an organic counter-reconnaissance tool at the brigade level was a deficiency, it did state that brigades do not regularly train with the divisional assets that could fill the void. In the rare opportunities when brigades do train with divisional assets such as the cavalry squadron, general support and attack aviation, they were usually used as an OPFOR. Either case presents a training dilemma that adversaries can exploit. Take home packages provide a basis to solve this training dilemma.

Take home packages from the NTC frequently indicate that counterreconnaissance failures at brigade and battalion levels is a result of major weaknesses in three distinct

areas: doctrine, organization, and training. All three areas are interrelated. Doctrine (to include as subsets: tactics, techniques, and procedures with units SOPs as a further subset of TTPs) provides units the framework for organization and training.

Counterreconnaissance is one of the Army's newest doctrinal terms. It was accepted in December 1988 as a doctrinal term as a result of the GOEC study. That study recommended that the definition published in JCS Pub 1-02 be accepted as the Army's doctrinal definition. The newest version of FM 101-5-1, Operational Terms and Symbols, published in January 1994 defines counterreconnaissance as: "All measures taken to prevent hostile observation of a force, area or place."

More than any others, FM 17-95, <u>Cavalry Operations</u>, and FM 71-123, <u>Tactics</u>, <u>Techniques and Procedures for Combined</u>

<u>Arms Heavy Forces: Armored Brigade</u>, <u>Battalion Task Force</u>,

<u>and Company Team</u>, most fully discuss the challenges posed by the counterreconnaissance mission. Given the relative newness of the term, it is not surprising that some gaps in information exist in both manuals.

FM 17-95, <u>Cavalry Operations</u>, further specifies that counterreconnaissance is an inherent task in all security operations and defines it as "the sum of all actions taken at all echelons to counter enemy reconnaissance and surveillance efforts through the depth of the AO." The manual includes both active and passive measures necessary

to destroy or repel enemy reconnaissance elements or to <u>deny</u> enemy information about friendly units.

A vast majority of FM 17-95 focuses on reconnaissance with only 45 of its 525 pages dedicated to security operations. These 45 pages address few of the nine tenets of counterreconnaissance. The manual highlights the need for depth, but not why it is necessary or how to use it. Separation of responsibility between surveillance and killer teams is absent as well as what constitutes asset sufficiency. Deception is just a distant implication in the three security missions: screen, guard, and cover.

The force executing a screen maintains surveillance, provides early warning to the main body, impedes and harasses the enemy with supporting indirect fires, and destroys enemy reconnaissance units within its capability. The words "destroys enemy reconnaissance units within its capability" implies that some enemy recon units may get through. There is no further discussion in the screen section regarding the integration of deception to provide for those enemy units that penetrate the screen.

A unit with a guard mission has the same duties as one conducting a screen with the additional requirements to prevent enemy ground observation of and direct fire against the main body. Again, the manual makes no mention about how deception plays into a guard mission if an enemy is successful in penetrating a guard force. Neither does it address exactly how enemy reconnaissance units are to be

intercepted and destroyed by the guard force.

The discussion concerning the covering mission is the first time the manual alludes to deception. The covering force accomplishes all the tasks of a screen or guard force with the additional requirements to develop the situation early and to deceive, disorganize, and destroy enemy forces. Armored Cavalry Regiments or reinforced brigades are the lowest level organizations that are structured to accomplish a cover mission.

In addition to FM 17-95's lack of integration of deception into security missions, there is a vacuum concerning how units given a screen or guard mission set up to destroy enemy reconnaissance units 'within their capability.' The manual does not mention what units organize surveillance and killer teams and how those teams act in concert with one another to destroy enemy reconnaissance units, avoid fratricide, and maintain coverage of the sector as the situation becomes fluid.

FM 71-123, Tactics, Techniques and Procedures for

Combined Arms Heavy Forces: Armored Brigade, Battalion

Task Force and Company Team (Sept 1992), interestingly

places counterreconnaissance under the 'Preparation for

Combat' chapter which might lead one to believe that

counterreconnaissance and combat operations are two

different entities. Of a total of 650 pages in the manual,

ten paragraphs address counterreconnaissance: three for the

brigade, six for the battalion task force, and one for the

company.

The counterreconnaissance overview never mentions manipulating the information enemy reconnaissance units acquire. It primarily focuses on the active destruction of enemy ground reconnaissance elements. This section seems incomplete as it says 'counterreconnaissance is one aspect of security;' however, it does not mention where it fits in relation to a larger security picture.

The brigade section astonishingly states that "the brigade does not plan and execute counterreconnaissance as a unit." The manual lays out only two tasks for a brigade to accomplish under counterreconnaissance: 1) to identify the reconnaissance threat facing the brigade and to predict its employment, and 2) to identify assets available to the brigade to conduct and support counterreconnaissance. The only assets mentioned are IEW support teams, ground surveillance radars, and the maneuver battalions. The manual never addresses COLT teams or other divisional assets which may be integrated into the brigade counterreconnaissance fight such as the divisional cavalry squadron, other elements of the aviation brigade or RPVs. The actual execution of the counterreconnaissance fight is left to the maneuver battalions.

FM 71-123 battalion task force instructions are far more explicit and come closest to adequately laying out how to conduct a counterreconnaissance fight. The manual provides three primary tasks for a battalion task force to

accomplish during counterreconnaissance: 1) to identify the reconnaissance threat facing the battalion and predict its employment, 2) to identify assets available to the battalion to conduct and support counterreconnaissance, and 3) to identify, locate and destroy enemy ground reconnaissance. 85

FM 71-123 describes the tactics with which to accomplish the third battalion task better than any other manual. It calls for the deployment of two elements forward of the battalion under a single commander. The forward element establishes a screen to identify, locate and shadow enemy reconnaissance units while the rear element performs a guard mission to destroy the enemy reconnaissance units found by the forward screening element. Additional discussions address the employment of obstacles, COLT teams, FA support, mortars, and assets made available to the battalion from brigade level. \$6

The battalion counterreconnaissance section still has doctrinal deficiencies. No mention is made of conduct of counterreconnaissance behind the guard force. Nor does the manual address enemy reconnaissance units that attempt to penetrate a brigade sector along the battalion boundaries. No explanation exists about what constitutes asset sufficiency. Finally, the manual does not discuss deception in the main battle area to support the counterreconnaissance screen. The main battle area can be structured to channel enemy reconnaissance into an avenue of approach. In all probability, other enemy collection assets have already

found the main battle area. Enemy ground reconnaissance will simply strive to confirm that information.

The company counterreconnaissance section is the least comprehensive of the three levels. The manual states clearly that companies do not execute independent counterreconnaissance operations. The counterreconnaissance operations are but one form of counterreconnaissance and companies conduct them all the time.

As unit Standing Operating Procedures (SOPs) are a form of doctrine at the lowest level, it is necessary to point out that some units have filled the voids left by doctrinal manuals. The SOPs of the former 4-68 Armor and 1-77 Armor Battalions addressed deception both within the counterreconnaissance screen area and the main body. Their SOPs also gave specific guidance on who gains contact with enemy reconnaissance units, who destroys them and who insures that the enemy sees only what he is supposed to. These units establish positive control and address how and when a unit transitions from counterreconnaissance to the main battle.

An SOP, while certainly adequate for individual units, does not standardize actions across the Army. Gaps in doctrine concerning deception, depth, division of task responsibility, positive control of enemy reconnaissance units, priority, and integration of all assets in the counterreconnaissance fight at both the brigade and battalion levels is therefore a weakness.

Organizational structure for the brigade counterreconnaissance fight acts is second major weakness.

Brigades have no reconnaissance or security organizations.

This void forces the brigade to rely on the battalions or
division to provide the primary resources for surveillance
and killers.

In 1945, the US Army's <u>Organization</u>, <u>Equipment and</u>

<u>Tactical Employment of the Armored Forces</u> study recommended that reconnaissance units be retained in any postwar organization. These units should be equipped with wheeled vehicles to promote stealth and be supported by armored vehicles where necessary for protection. 90

The report also concluded that pure reconnaissance missions were rare. Defensive missions were more common for reconnaissance units. These units were regularly reinforced with artillery, tank destroyers, and engineers. 91

Major James E. Wolf's 1988 study, <u>Ground Reconnaissance</u> in the Heavy Corps: <u>Do Tactical Assets Match Mission</u>

Requirements?, corroborates the findings of the 1945 General Board. He found that pure reconnaissance was historically conducted only six percent of the time while divisional security and special operations consumed eighty-nine percent of scout units' time. ⁹² The correct match between scouts, augmentation and missions remains a contentious issue.

The <u>Division 86 Study</u> found that a reconnaissance and security platoon of ten wheeled vehicles was adequate to provide coverage across the brigade frontage when backed up

by battalion scout platoons. However, the US Army Armor Center found that brigades will usually see a frontage of up to fifteen kilometers in an open environment. A ten vehicle scout platoon can only screen a maximum of eight kilometers in an open environment; less in more closed terrain. He are a ground troop in the aviation brigade squadron can screen approximately fifteen kilometers in the same environment and sustain that coverage indefinitely. A scout platoon must be periodically replaced on the brigade screen to sustain itself or it should be assigned a smaller frontage.

The Army of Excellence (AOE), VOL. III, redesigned the HHC at brigade by removing the reconnaissance and security element planned for in the <u>Division 86 Study</u>. Convoy escort, straggler control, EPW and security missions (traditional scout platoon missions) all fell under the Military Police task list. All reconnaissance missions were to be accomplished by battalion scout platoons. No further assets were planned to augment the brigade for counterreconnaissance, and the organization of the battalion scout platoon was not altered.

Major Rosenberger assessed the brigades ability to effectively conduct both reconnaissance and counter-reconnaissance missions at the NTC in 1988. He found that:

The brigade commander needs an organic reconnaissance and security element. The element designed will be required to operate on a scale created by the size of the brigade sector. Division 86 force structure originally identified a need for a brigade reconnaissance platoon. AOE cuts in 1984 deleted the platoon (as a bill payer for additional MP units). The scout platoon alone, even

equipped with M-3s, is not capable of accomplishing all the tasks associated with a screen mission as part of a counterreconnaissance force.

The GOEC indicated in its assessment of counterreconnaissance organization that: 1) counterreconnaissance
had to be layered to meet the threat of layered enemy
reconnaissance, 2) the minimum size required to effectively
cover a brigade frontage was a heavy company team, and 3)
battalions needed a minimum of a heavy company team to
adequately provide a counterreconnaissance screen for its
main body. 98

The ten vehicle scout platoon (HWWMV) or six vehicle scout platoon (M-3s) for the battalion and nothing in the brigade is a wholly inadequate organization in light of the GOEC, Rosenberger study and Armor Center findings. To build a counterreconnaissance element at both the brigade and battalion level, units resort to creating ad hoc organizations. All too often, these units do not possess the training for the complicated task of counterreconnaissance.

Major General Kenneth C. Leuer, serving as the Chief of Infantry, wrote in <u>Infantry</u> magazine:

The lessons from the CTCs have shown the strong correlation between security and overall tactical success. The importance of both reconnaissance and security missions cause commanders to assign more missions and tasks to their scout elements than they have resources to accomplish."

The alternative is to assign these missions to units which are not as well trained, but have the resources to

accomplish them. General Leuer's closing statement addresses this alternative:

To prepare for that (battlefield) success, a battalion must clearly define its reconnaissance and security missions and tasks, task organize its units to perform them effectively, and aggressively execute them."100

Task organization is only effective with adequate training.

The Army Research Institute for the Behavioral Sciences recently published an article concerning the determinants of success at the National Training Center. ARI sought an understanding of the relationship between unit training and preparation for combat with unit effectiveness. The scope of the study focused on armor and mechanized task forces at the NTC, and light infantry task forces at the JRTC. 101

The ARI study found that the most successful units cross-attached companies between battalions then formed and trained combined arms teams at least four months before an NTC rotation. The least successful units trained these teams for less than three months. The tasks for which units trained were just as important as the time a unit trained together.

Brigades rated as most successful developed a battle-focused training program where 83 percent of training tasks were derived from ARTEP MTPs. Other tasks were non-standard and included counterreconnaissance prominently. The least successful brigades focused more training time on ARTEP tasks. This is not surprising given that counterreconnaissance doctrine is not very specific.

Observations from O/Cs at the NTC address counterreconnaissance training as a primary weakness. Emphasis
during daylight seems to be oriented on preventing enemy
reconnaissance from getting in; at night it devolves to just
staying awake, something the BLUEFOR rarely does. OPFOR
reconnaissance units get through during the night and do
their damage in daylight through passive observation.

Take home packages frequently indicate that a lack of situational awareness and unfamiliarity with the coordination necessary to eliminate identified enemy reconnaissance unit is a significant cause for counter-reconnaissance failure. Lack of familiarity causes hesitation and on occasion, paralysis. This paralysis can be traced to home station training. 105

A final training note that take home packages point out is that usually the "second team" executes the counter-reconnaissance plan. The night TOC officers at both battalion and brigade levels are usually the junior officers of the unit. They have the responsibility to fight a first team reconnaissance effort. 106

Deficient areas in doctrine, organization, and training combine to create major weaknesses in US heavy brigade counterreconnaissance execution. Deception, asset integration, depth and task responsibility are absent in counterreconnaissance doctrine. Asset sufficiency is an organizational problem. Training programs do not adequately prepare disciplined teams, nor do commanders and staffs

adequately prioritize command and control functions to prevent enemy reconnaissance units from penetrating US screens.

V. Conclusion

Brigade level counterreconnaissance doctrine organization and training in the US Army needs a renaissance. Reports from the RAND Corporation, the Center for Army Lessons Learned, the Combined Arms Command, and take home packages from the National Training Center all conclude that severe weakness exist in how we conduct counterreconnaissance both at battalion and brigade level. NTC results confirm the weakness. ARTEP evaluations, commanders training summaries, reports from BCTP, and the findings of the GOEC come to the same conclusions based on non-NTC experience. We do not fight counterreconnaissance well.

The ideal test is wartime experience. However, Desert Storm experience was not a valid test of our counter-reconnaissance capability. Iraqis were ill-trained and poorly equipped to conduct the type of reconnaissance called for on the modern battlefield.

The weaknesses cited by these sources reveal a common set of counterreconnaissance tenets. They supply a basis for understanding counterreconnaissance. These nine tenets are: priority, depth, deception, asset sufficiency, asset integration, task responsibility, discipline, command involvement and unity of command.

Three historical examples demonstrate that these tenets were critical to counterreconnaissance success: Ulm (1805), France (1940), and Kursk (1943). Victory (or defeat) in the fight for information determined the outcome in each of these battles.

The lessons are not lost on potential adversaries today. Current Russian and Ukrainian doctrine and organization points to an even greater emphasis on reconnaissance than at any time previously.

Reconnaissance units have existed at division and regimental levels for years. Now there is a push to add a reconnaissance company at battalion level. These units are equipped for surreptitious reconnaissance behind the enemy. They will be assisted by combat units as augmentation.

One reason for the shift to increased reconnaissance and larger lead echelons is the emphasis on precision guided munitions (PGMs). Second echelons prove too vulnerable to them. PGM effects may be neutralized by saturating the enemy security zone with more reconnaissance units and closing quickly with larger lead echelons. Counter-reconnaissance becomes even more critical in this light.

The NTC OPFOR accurately replicates the reconnaissance threat posed by Russian or Ukrainian doctrine. Although the OPFOR do not use motorcycles or engineers as widely as Russians or Ukrainians (for safety and expense reasons), other advantages such as terrain

familiarity and additional reconnaissance time accrue to the OPFOR to balance the difference. The OPFOR effectively exposes preexisting counterreconnaissance flaws.

US Army weakness in brigade counterreconnaissance falls into three distinct categories: doctrine, organization, and training. Examination of these three areas based on the nine tenets illuminates the problem.

The most salient deficiencies are doctrinal. Doctrinal manuals do not address the priority of counterreconnaissance in relation to the subsequent battle. They do not explain force-space relationships, how much depth is necessary for the size of forces involved or what constitutes asset sufficiency. Delineation of task responsibility between surveillance and hunter/killers is absent as well as the need for a single commander and staff to coordinate all the assets available to a brigade for counterreconnaissance.

Asset sufficiency crops up again in the area of organizational deficiency. Brigades possess no separate reconnaissance/security element. They must rely on battalion scouts or divisional assets. Battalion scouts are not able to screen their own frontages let alone the brigade's. Given the limited scout assets throughout a brigade, maneuver units must reinforce or replace them.

Sufficient coverage for a counterreconnaissance screen consists of a company team as surveillance and another as hunter/killers. Both companies should be assigned under a single commander to facilitate coordination and avoid

fratricide. This organization supports sustained operations whereas scouts alone do not. Such company teams must be trained to accomplish surveillance and guard missions.

The preparation of teams fulfilling the surveillance and hunter/killer tasks is inadequate. ARI indicates four months are the minimum time needed to establish effective working relationships necessary to accomplish counter-reconnaissance. Most units spend less than three months creating their teams. Training those who plan and supervise the execution of counterreconnaissance is also not done.

This monograph recommends three possible solutions to remedy counterreconnaissance weakness: incorporate the nine tenets into counterreconnaissance doctrine; fully integrate the assets currently available to a brigade; focus training programs to create the teams on the screen line and polish the ability of commanders and staffs to coordinate their use. Appendix 2 offers a counterreconnaissance task list integrated with potential assets available to a brigade to serve as a starting point.

APPENDIX 1 Reconnaissance Task List and Asset Utilization Matrix

Assets

Tasks

Route

Locate Screen Positions
Locate Route Obstacles
Breach/mark Obstacles
Mark Assault Route
Infiltrate Route
Establish Route OP
Recon Terrain
Recon Trafficability
Timely Communication

<u>Objective</u>

Locate Enemy Positions
Locate Objective Obstacles
Breach/mark Obstacles
Establish Objective OP
Direct Fires
Assist Cmd and Control

S c o u t s	G S R	V i s A i d	F	I n f a n t r	A m o r	A v n	E n g r	s i g n a 1	I E W	Others
\vdash										
\vdash	_					_				
П										
H		_	\dashv	\dashv						

Notes on the matrix:

This matrix acts as a coordination tool. Where two assets are assigned the same task they should be integrated under a single commander. Rehearsals to test the coordination are recommended. There are multiple assets available to accomplish each task, so spread out the wealth. Acoustic and seismic sensors may become available and fall in the others category. Maneuver units may assist reconnaissance units in route infiltration and fall in the others category.

APPENDIX 2 Counterreconnaissance Task List and Asset Utilization Matrix

Tasks

Screen Line

C'Recon IPB
Establish Ops
Emplace/Cover Obstacles
Cover Infiltration Rtes
Conceal Screen Line
Locate Enemy Recon
Destroy Enemy Recon
Deceive Enemy Recon
Assist Cmd and Control
Direct Fires
Plan Fratricide Prevention
Sustain Screen Line Units
Timely Communications
Maintain Positive Control
of Enemy Recon

Main Body Location

Establish Ops
Emplace/Cover Obstacles
Cover Infiltration Rtes
Conceal Protected Assets
Locate Enemy Recon
Destroy Enemy Recon
Deceive Enemy Recon
Direct Fires
Maintain Movement
Local Security Patrols

U n i t s	Scouts	GSR	V i s A i d s	C O L T / F O	FA/Mort	A v n / A t k	A v n / R e c	A v n / C g o	Engra	I E W	D i v C a v	C d r	Stafff	O T H E R S
				_					_					
\vdash														

Notes on the matrix:

This matrix acts as a coordination tool. Where two assets are assigned the same task they should be integrated under a single commander. Rehearsals to test the coordination are recommended. There are multiple assets available to accomplish each task, so spread out the wealth. Maneuver units make effective OPs as well as hunter/killers. Acoustic and seismic sensors may become available and fall in the others category.

Endnotes

- 1. Elizabeth Longford, The Years of the Sword, p. 293.
- 2. Sun Tzu, The Art of War, Griffith translation, pp. 77-84.
- 3. Jerry R. Bolzak, MAJ., <u>Blinding the Enemy: Soviet Tactical Reconnaissance in the Rear Area</u>, p. 3.
- 4. Carl von Clausewitz, On War, p. 85.
- 5. Richard Simpkin, Red Armour, p. 173.
- 6. FM 100-5, Operations, 1993, pp. 2-4,5.
- 7. R.G. Simonyan and S.V. Grishin, <u>Tactical Reconnaissance</u>, p. 4.
- 8. Foreign Military Studies Office, <u>Issue Paper No. 2, A</u>
 <u>Future Threat Model for Training the Force</u>, pp. 1-6.
- 9. FMSO, Future Threat Model, pp. 3-5.
- 10. Combined Arms Center (CAC), <u>Reconnaissance</u>, <u>Surveillance</u>, <u>and Counterreconnaissance</u> (<u>R/S/CR</u>), <u>Special Study Group</u>, <u>Phase I and II</u>, pp. I-1, I-2, I-7.
- 11. CAC, R/S/CR, pp. I-2, I-5, II-4.
- 12. CAC, R/S/CR, pp. II-35 to II-37.
- 13. US Army, "FY 91 NTC Brigade Rotation Take Home Packages," Summary of 14 Brigade Take Home Packages and Evaluation, CALL, pp. 17-18; Goldsmith, p. 45; Interviews with MAJ Derek Miller and MAJ Mike Prevou, 22 October 1994.
- 14. US Army, "FY 1991 NTC Brigade Take Home Packages." p. 16; The General Board, US Forces European Theater, <u>Mechanized Cavalry Units</u>, Study Number 49, November 1945, Appendix 4, p. 2.
- 15. Goldsmith, p. 67.
- 16. CAC, R/S/CR, p.6.
- 17. US Army, "FY 91 NTC Brigade Rotation Take Home Packages," Summary of 14 Brigade Take Home Packages and Evaluations, US Army Center for Army Lessons Learned, Fort Leavenworth, KS, 1992.
- 18. FM 100-5, Operations, p. 2-7.
- 19. Interview, MAJ. Mike Prevou, 22 October 1994; Center for Army Lessons Learned, "CTC Observations, Trends," CALL Bulletin No. 93-4, pp. 8-11.

- 20. CAC, R/S/CR, pp. II-17 to II-21.
- 21. Goldsmith, p. 2.
- 22. David G. Chandler, The Campaigns of Napoleon, p. 390.
- 23. Chandler, p. 391.
- 24. Gunther E. Rothenberg, <u>The Art of Warfare in the Age of Napoleon</u>, p. 46.
- 25. Chandler, pp. 392-394.
- 26. Chandler, p. 394.
- 27. Chandler, p. 400.
- 28. Heinz Guderian, Armored Forces, p. 238.
- 29. Robert Patterson, "Reconnaissance and Surveillance on the European Battlefield," NATO's Sixteen Nations (July 1986), p. 63.
- 30. Kenneth Macksey, <u>Guderian</u>, <u>Creator of the Blitzkrieg</u>, p. 126.
- 31. Macksey, Guderian, p. 128.
- 32. Macksey, <u>Guderian</u>, p. 128.
- 33. Macksey, Guderian, pp. 145-146.
- 34. Macksey, <u>Guderian</u>, p. 145-147.
- 35. Macksey, <u>Guderian</u>, p. 64.
- 36. Macksey, Guderian, p. 139.
- 37. Macksey, Tank Warfare, p. 88.
- 38. Quoted in Michael Dueweke, "Soviet Reconnaissance: An Overview," How They Fight (April-June 1988), p. 15.
- 39. Bolzak, p. 13.
- 40. Kenneth Macksey, <u>Tank Warfare</u>, A <u>History of Tanks in</u> <u>Battle</u>, p. 211.
- 41. Macksey, <u>Tank Warfare</u>, p. 212.
- 42. Macksey, Tank Warfare, pp. 211-217.
- 43. Macksey, <u>Tank Warfare</u>, p. 213.

- 44. Macksey, Tank Warfare, pp. 214-215.
- 45. Charles W. Sydnor, Soldiers of Destruction, pp. 279-290.
- 46. Macksey, Tank Warfare, pp. 211-215.
- 47. Alfredo Pallavisini and Cesare Salmaggi, <u>2194 Days of War</u>, pp. 387-399.
- 48. Macksey, Guderian, p. 213.
- 49. F. Gredasov, "Reconnaissance in Modern Battle," <u>Soviet Military Review</u>, (June 1984), p. 14.
- 50. Macksey, <u>Guderian</u>, p. 206.
- 51. V.G. Reznichenko, <u>Tactics</u>, p. 52.
- 52. Foreign Military Studies Office (FMSO), <u>A Future Threat</u> Model for Training the Force, p. 5.
- 53. FMSO, <u>Future Threat Model</u>, pp. 3-5.
- 54. FMSO, Future Threat Model, p. 5.
- Interviews, MAJ Derek Miller (Infantry company commander 24th Infantry Division and former NTC O/C) and MAJ John Tibbets (Tank company commander, 1st Infantry Division), 22 October 1994, Both officers served as commanders during multiple rotations to the NTC as commanders.
- 56. FMSO, <u>Future Threat Model</u>, p. 6.
- 57. FMSO, The Non-Linear Nature of Future War: A Soviet/Commonwealth View, pp. 7-8.
- 58. FMSO, The Non-Linear Nature of Future War, p. 5.
- 59. V. Reznichenko, Taktika, p. 200.
- 60. FMSO & Conflict Studies Research Center, RMA Sandhurst, The Military Doctrine of Ukraine, p. 4; FMSO, The Combined Arms Battalion, Reorganization for Tactical Flexibility, pp. 1 & 24-25.
- 61. David Glantz, The Fundamentals of Soviet Razvedka (Intelligence-Reconnaissance), p. 6.
- 62. Bolzak, p. 14.
- 63. Bolzak, p. 17.

- 64. Robert Jones, "Reconnaissance Lessons Learned," Red Thrust, pp 19-24.
- 65. Bolzak, pp. 17-19.
- 66. Martin Goldsmith, <u>Applying the National Training Center Experience: Tactical Reconnaissance</u>, p. 8.
- 67. Goldsmith, p. 33.
- 68. Goldsmith., p. 9.
- 69. David Ozolek, "Counterreconnaissance," <u>Infantry</u>, (September-October 1986), pp. 34-37; Goldsmith, pp. 9 & 18.
- 70. US Army Combined Arms Center, "Reconnaissance, Surveillance, and Counter-reconnaissance Assessment," Briefing for General Officer Executive Committee, CAC, p. 5.
- 71. Combined Arms Center (CAC), <u>Reconnaissance</u>, <u>Surveillance</u>, <u>and Counterreconnaissance</u> (<u>R/S/CR</u>), <u>Special Study Group</u>, <u>Phase I and II</u>, pp. I-1, I-2, I-7.
- 72. CAC, (R/S/CR), pp. II-17 to II-21.
- 73. CAC, (R/S/CR), pp. II-35 to II-37.
- 74. "Reconnaissance, Surveillance and Counterreconnaissance Assessment," p. 6.
- 75. Craig S. Harju, MAJ, White Paper A Study of the Maneuver Battalion Reconnaissance or Scout Platoon, p. 3.
- 76. Center for Army Lessons Learned, <u>Fort Leavenworth Lessons</u> Learned Newsletter <u>3CAT00414</u>, <u>Maneuver</u>, p. 7.
- 77. CAC, R/S/CR (Phase I), p. 21.
- 78. FM 101-5-1, Operational Terms and Symbols, p. 1-68.
- 79. FM 17-95, Cavalry Operations, p. 4-2.
- 80. FM 17-95, p. 4-11.
- 81. FM 17-95, p. 4-27.
- 82. FM 17-95, p. 4-38.
- 83. FM 71-123, <u>Tactics</u>, <u>Techniques</u>, <u>and Procedures for Combined Arms Heavy Forces: Armored Brigade</u>, <u>Battalion Task Force</u>, <u>and Company Team</u> (September 1992), p. 2-52.
- 84. FM 71-123, p. 2-53.

- 85. FM 71-123, p. 2-53.
- 86. FM 71-123, p. 2-53.
- 87. FM 71-123, p. 2-53.
- 88. Center for Army Lessons Learned, "CTC Observations, Trends," CALL Bulletin No. 93-4, pp. 8-11.
- 89. Alfred, Dibella, Jr. "Standing Operating Procedures," 4-68 Armor, Fort Carson, CO, 1985; 1-77 Armor, "Standing Operating Procedures," Fort Carson, CO, 1985.
- 90. The General Board, US Forces European Theater, <u>Mechanized</u> <u>Cavalry Units</u>, Study Number 49, November 1945, Appendix 4, p. 2.
- 91. The General Board, p. 4.
- 92. Major James E. Wolf, <u>Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?</u>, School of Advanced Military Studies, USCGSC, Fort Leavenworth, KS, p. 25.
- 93. US Army, <u>Division 86 Analytical Methodology</u>, US Army TRADOC, Fort Leavenworth, KS., Mar 9, 1981.
- 94. US Army Armor Center, <u>Battalion Scout Platoon Concept and Evaluation Plan</u>, Directorate of Combat Developments, Fort Knox, KY, 1990, p. 30.
- 95. US Army Armor Center, <u>Battalion Scout Platoon Concept and Evaluation Plan</u>, p. 31.
- 96. The Army of Excellence Final Report VOL. III, The Heavy Division, US Army Combined Arms Combat Development Activity, Fort Leavenworth, KS, pp. 2-5.
- 97. Major John D. Rosenberger, An Assessment of Reconnaissance and Counter-reconnaissance Operations at the National Training Center, US Army Armor School, Fort Knox, Kentucky, February 1988, p. 10.
- 98. CAC, "Reconnaissance, Surveillance, and Counter-reconnaissance Assessment," p. 6.
- 99. Major General Kenneth C. Leuer, "Reconnaissance and Security," Commander's Note, <u>Infantry</u>, Volume 78, Number 4, p. 1.
- 100. Major General Leuer, p. 2.
- 101. ARI, <u>Newsletter</u>, Determinants of Effective Unit Performance, Volume 10, October 1992, p. 1.
- 102. ARI, p. 6.

- 103. ARI, p. 8.
- 104. Interviews, Major Derek Miller and Major Mike Prevou.
- 105. Interview, MAJ Mike Prevou.
- 106. US Army, "FY 91 NTC Brigade Rotation Take Home Packages," 1992, p. 6.

BIBLIOGRAPHY

Books

- Chandler, David G. <u>The Campaigns of Napoleon</u>, New York, New York, Macmillan Publishing Company: 1966.
- Clausewitz, Carl von. On War, translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University, 1984.
- Epauchin, Colonel. <u>General Gurko's Advanced Guard in 1877</u>, Translated by H. Havelock, London, UK, Kegan, Paul and Trench: 1900.
- Goldsmith, Martin and James Hodges. <u>Applying the National</u>
 <u>Training Center Experience: Tactical Reconnaissance</u>. Santa
 Monica CA: RAND, 1987.
- Guderian, Heinz. Armored Forces, Oxford, Pergamon: 1982.
- Hohenlohe-Ingelfingen, Prince Kraft zu. <u>Letters on Cavalry</u>, Geo Spooner, Leavenworth, KS: 1892.
- Hooper, Thomas. The Principles of War and Rear Area Protection, AOSF Monograph, Fort Leavenworth, KS: Jan 1988.
- Howard, Michael. <u>The Franco-Prussian War</u>, London, UK, Routledge: 1988.
- Isby, David. <u>Weapons and Tactics of the Soviet Army</u>, London, UK, Jane's Publishing: 1988.
- Longford, Elizabeth. <u>Wellington, The Years of the Sword</u>, New York and Evanston, Harper and Rowe Publishing: 1969.
- Macksey, Kenneth. <u>Guderian, Creator of the Blitzkrieg</u>, New York, Stein and Day: 1975.
- Macksey, Kenneth. Tank Warfare, New York, Stein and Day: 1971.
- Marshall, S.L.A. <u>Men Against Fire: The Problem of Battle Command in Future War</u>. Gloucester, MA: 1978.
- Menning, Bruce. <u>The Deep Strike in Russian and Soviet Military</u>
 <u>History</u>, Soviet Army Studies Office, US Army Combined Arms
 Center, Fort Leavenworth, KS: 1989.
- Reznichenko, V. G. <u>Tactics (1984)</u>, Ottawa, CIS Multilingual Translation Bureau: 1984.
- Rommel, Field Marshall Erwin. <u>Attacks</u>. Vienna, VA: Athena Press, 1979 (Originally Published 1937).

- Rothenberg, Gunther E. <u>The Art of Warfare in the Age of Napoleon</u>, Bloomington, Indiana, Indiana University Press: 1978.
- Simoyan, R. G. and S. V. Grishin. <u>Tactical Reconnaissance</u>, (1980), Washington D.C., Directorate of Soviet Affairs, Department of the Air Force: 1980.
- Simpkin, Richard. Race to the Swift: Thoughts on Twenty First Century Warfare, London, UK, Brassey's Defence Publishers: 1985.
- Simpkin, Richard. Red Armour: An Examination of the Soviet Mobile Force Concept, Oxford, Pergamon Press: 1984.
- Sun Tzu. The Art of War, Griffith Translation, New York, Oxford University Press: 1963.
- Sydnor, Charles W. <u>Soldiers of Destruction: The Death's Head Division, 1933-1945</u>, Princeton, New Jersey, Princeton University Press: 1977.
- Triandafillov, V. K. <u>Nature of the Operations of Modern Armies</u>, SAMS Reprint, Fort Leavenworth, KS: 1989.
- Tukhachevskiy, Mikhail. <u>New Problems in Warfare</u>, SAMS Reprint, Fort Leavenworth, KS: 1989.
- Van Creveld, Martin. <u>Command in War</u>, Cambridge, MA, Harvard University Press: 1985.
- Vigor, P. H. <u>Soviet Blitzkrieg Theory</u>, Ney York, St. Martin's Press: 1983.

<u>Manuals</u>

- US Army. FM 6-20-10, Tactics, Techniques, and Procedures for the Targeting Process. Washington, DC: Headquarters, Department of the Army, 1990.
- US Army. <u>FM 17-95</u>, <u>Cavalry Operations</u>. Washington, DC: Headquarters, Department of the Army, September 1991.
- US Army. <u>FM 25-100</u>, <u>Training the Force</u>. Washington, DC: Headquarters, Department of the Army, 1988.
- US Army. <u>FM 25-101</u>, <u>Battle Focused Training</u>. Washington, DC: Headquarters, Department of the Army, 1991.
- US Army. FM 34-2-1, Tactics, Techniques, and Procedures for Reconnaissance and Surveillance and Intelligence Support for Counterreconnaissance. Washington, DC: Headquarters, Department of the Army, 1991.

- US Army. FM 34-10-1, Tactics, Techniques, and Procedures for the Remotely Monitored Battlefield Sensor System. Washington, DC: Headquarters, Department of the Army, 1991.
- US Army. FM 34-130, Intelligence Preparation of the Battlefield. Washington, DC: Department of the Army, 1994.
- US Army. FM 71-123, Tactics, Techniques, and Procedures for the Combined Arms Heavy Armored Brigade, Battalion and Company Team. Washington, DC: 1992.
- US Army. <u>FM 100-5</u>, <u>Operations</u>. Washington, DC: Headquarters, Department of the Army, 1993.
- US Army. FM 100-5, Operations. Washington, DC: Superintendent of Documents: 1941.
- US Army. <u>FM 101-5-1</u>, <u>Operational Terms and Graphics</u>. Washington, DC: Department of the Army, Initial Draft 1994.
- US Marine Corps. <u>FMFM 1, Warfighting</u>. Washington, DC: United States Marine Corps, 1989.
- US Marine Corps. <u>FMFRP 1-11</u>, <u>Fleet Marine Force Organization</u>. Washington, DC: Headquarters, United States Marine Corps, 1990.
- US Marine Corps. Operational Handbook 6-1, Ground Combat Operations. Quantico, VA: Headquarters, Marine Corps Combat Development Command, 1988.

Monographs and Theses

- Boeglin, Kenneth L., MAJ. "Does the Heavy Maneuver Brigade Commander Need An Organic Reconnaissance/ Security Organization?," MMAS, Command and General Staff College, Fort Leavenworth, KS: 1992.
- Bolick, Joseph, A., MAJ. "Soviet Tactical Surprise: The Doctrine and How To Counter It," School of Advanced Military Studies, Fort Leavenworth, KS: December 1987.
- Bolzak, Jerry R., MAJ. "Blinding the Enemy: Soviet Tactical Reconnaissance in the Rear Area," School of Advanced Military Studies, Fort Leavenworth, KS: 1990.
- Chapell, John Stephen, MAJ. "Security Operations: Current Net Value of NTC Lessons Learned for the Divisional Ground Maneuver Brigade," MMAS, Command and General Staff College, Fort Leavenworth, KS: 1989.

- Lacquement, David B., MAJ. Light Battalion Task Force Reconnaissance and Surveillance: Clear Vision or Groping in the Dark?," School of Advanced Military Studies, Fort Leavenworth, KS: 1991.
- Moon, James M., MAJ. "Heavy-Light Forces: Determining the Optimum Force Based on Forms of Action, Functions and Tempo," School of Advanced Military Studies, Fort Leavenworth, KS: 1993.
- Stahl, David T., MAJ. "Coalescing Reconnaissance, Counterreconnaissance and the IPB Process in the Light Infantry Brigade," School of Advanced Military Studies, Fort Leavenworth, KS: 1992.
- Swan, Guy C., III, MAJ. "Tactical Reconnaissance for the Heavy Brigade Commander: How Much Is Not Enough?," School of Advanced Military Studies, Fort Leavenworth, KS: 1989.
- Wolff, Terry A., MAJ. "Tactical Reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective?," School of Advanced Military Studies, Fort Leavenworth, KS: 1991.

Other Publications

- Army Research Institute. "Determinants of Effective Unit Performance," <u>ARI Newsletter Volume 10</u>, Alexandria VA: October 1992.
- Desert Storm After Action. <u>Executive Summary and Historical</u>
 <u>Narrative</u>, 3rd Armor Division (5-5 Cav, 4-7 Cav): 9 March 1991.
- Dick, C. J. <u>Initial Thoughts on Russia's Draft Military Doctrine</u> and Russia's <u>Draft Military Doctrine</u>, 10 Months On, Foreign Military Studies Office, Fort Leavenworth, KS and Soviet Studies Research Centre, RMA Sandhurst, UK: July 1992 and April 1993.
- Dick, C. J. The Military Doctrine of Ukraine, Foreign Military Studies Office, Fort Leavenworth, KS, and Conflict Studies Research Centre, RMA Sandhurst, UK: December 1993.
- Foreign Military Studies Office. "A Future Threat Model for Training the Force," <u>Issue Paper No. 2</u>, US Army Combined Arms Command, Fort Leavenworth, KS: 18 October 1991.
- Foreign Military Studies Office. "Future Threats and Challenges," <u>Issue Paper No. 3</u>, US Army Combined Arms Command, Fort Leavenworth, KS: 6 November 1991.

- Foreign Military Studies Office. "Trends in Russian (Commonwealth) Force Structuring," <u>Issue Paper No. 4</u>, US Army Combined Amrs Command, Fort Leavenworth KS: 1 March 1992.
- Foreign Military Studies Office. "The Non-Linear Nature of Future War: A Soviet/Commonwealth View," <u>Issue Paper No. 5</u>, US Army Combined Arms Command, Fort Leavenworth, KS: 4 March 1992.
- Gebhardt, James, F., MAJ. <u>Restructuring the Tactical Defense</u>, Foreign Military Studies Office, US Army Combined Arms Command, Fort Leavenworth KS: Dec 1990.
- Gebhardt, James, F., MAJ. <u>Soviet Battalion in the Defense</u>, Foreign Military Studies Office, US Army Combined Arms Command, Fort Leavenworth KS: Dec 1989.
- The General Board, US Forces European Theater, <u>Mechanized Cavalry Units</u>, Study Number 49: November 1945.
- Glantz, David, M., COL. <u>The Fundamentals of Soviet RAZVEDKA</u>:

 <u>Intelligence/Reconnaissance</u>, Soviet Army Studies Office, US
 Army Combined Arms Center, Fort Leavenworth, KS: Jan 1989.
- Glantz, David, M., COL. Soviet and Commonwealth Military

 Doctrine and the Gulf War, Foreign Military Studies Office,
 US Army Combined Arms Command, Fort Leavenworth, KS: April
 1992.
- Grau, Lester, W., LTC. Absorbing the Initial Attack: The Security Zone in the Contemporary Russian View of Defense, Foreign Military Studies Office, US Army Combined Arms Command, Fort Leavenworth, KS: June 1992.
- Grau, Lester, W., LTC. <u>Defending Forward: Soviet Activities in Front of the Main Line of Defense</u>, Soviet Army Studies Office, US Army Combined Arms Center, Fort Leavenworth, KS: Feb 1990.
- Grau, Lester, W., LTC. "Desert Storm" Ground Operations: A
 General Staff Assessment, Foreign Military Studies Office,
 US Army Combined Amrs Command, Fort Leavenworth KS: March
 1992.
- Grau, Lester, W. <u>From the Ashes: A Russian Approach to Future</u>

 <u>Maneuver War</u>, Foreign Military Studies Office, US Army
 Combined Arms Command, Fort Leavenworth, KS: April 1994.
- Grau, Lester, W., LTC. <u>Soviet Artillery Planning in the Tactical Defense</u>, Soviet Army Studies Office, US Army Combined Arms Command, Fort Leavenworth, KS: Sep 1990.

- Grau, Lester, W., LTC. The Soviet Combined Arms Battalion:

 Reorganization for Tactical Flexibility, Soviet Army Studies
 Office, US Army Combined Arms Center, Fort Leavenworth, KS:
 September 1989.
- Grau, Lester, W., LTC. <u>Soviet Non-Linear Combat: The Challenge of the 90's</u>, Soviet Army Studies Office, US Army Combined Arms Command, Fort Leavenworth, KS: September 1990.
- Gress, Michael. <u>Tactical Problems Related to the Theory of</u>
 <u>Offensive Operations in Russian Military Science</u>, Translated by Major Ron Bonesteel, Foreign Military Studies Office, US Army Combined Arms Command, Fort Leavenworth KS: May 1992.
- Harju, Craig Stephen, Sr. "White Paper--A Study of the Maneuver Battalion Reconnaissance or Scout Platoon," US Armor School, Fort Knox, KY: 18 September 1989.
- Jones, Robert, 2LT. "Reconnaissance Lessons Learned," Red Thrust, PB-30-94-2: July 1994.
- Rosenberger, John D. "An Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center." Fort Knox, KY: United States Armor School, February 1987.
- Thomas, Timothy, L., LTC. The Soviet Military on "Desert Storm":

 A Preliminary Report, Foreign Military Studies Office, US

 Army Combined Arms Command, Fort Leavenworth, KS: August
 1991.
- US Army Armor Center. <u>Battalion Scout Platoon Concept and</u>
 <u>Evaluation Plan</u>, Directorate of Combat Developments, Fort
 Knox, KY: 1990.
- US Army Combined Arms Combat Development Activity. The Army of Excellence Final Report, VOL III, The Heavy Division, Fort Leavenworth, KS: 1 October 1984.
- United States Army Conbined Arms Center and Fort Leavenworth.

 "Reconnaissance, Surveillance and Counterreconnaissance
 Special Study Group Interim Report (Phase I)," Fort
 Leavenworth, KS: March 1989.
- US Army TRADOC. <u>Division 86 Analytical Methodology</u>, Fort Leavenworth, KS: 9 March 1981.
- Villahermosa, Gilberto, CPT(P). <u>Desert Storm: The Soviet View</u>, Foreign Military Studies Office, US Army Combined Arms Command, Fort Leavenworth, KS: ****

<u>Articles</u>

- Breuhan, David R., CPT and William E. Rapp. "Reconnaissance and Counterreconnaissance: A Practical Example," <u>Marine Corps Gazette</u> 74, (August 1990): 76-81.
- Burns, Bob, CPT, "Reconnaissance," <u>CALL Bulletin</u> No. 93-4, Center for Army Lessons Learned, (Jul 93): 1-7.
- Carothers, John, CPT "Company Reconnaissance," <u>Infantry</u> 84 (July-August 94): 43-45.
- Crouch, William, W. "Soviet Reconnaissance Operations." <u>Armor</u> 90 (November-December 1981): 28-29.
- Dueweke, Michael J. "Soviet Reconnaissance; An Overview," <u>How They Fight</u>. U.S. Army Intelligence and Threat Analysis Center, (July-September 1988).
- Emerson, Harry., COL "Deep Operations: A Look From BCTP at the Process," <u>CALL Bulletin</u> No. 94-1, Center for Army Lessons Learned, (Mar 94): 21-32.
- Grau, Lester, W., LTC. "From the Ashes: A Russian Approach to Future Maneuver War," <u>Military Review</u>, US Army Command and General Staff College, Fort Leavenworth KS: July 1994.
- Grdovic, Mark, N. "Counter-reconnaissance HMMWVs," <u>Infantry</u> 84-3 (May-June 1994): 44-47.
- Gredasov, F., "Reconnaissance in Modern Battle," <u>Soviet Military</u> Review: June 1984.
- Griswold, Myron J., LTC. "Focusing Combat Power: Seeing is Winning," Military Review, US Army Command and General Staff College, Fort Leavenworth, KS: July 1994.
- Hoover, Curt L. "Reconnaissance," <u>CALL Newsletter</u> No. 92-X, Center for Army Lessons Learned, (May 92): 1-20.
- Humphrey, Vernon W. "Winning at the NTC: Reconnaissance," Infantry 74 (January-February 1984): 35-37.
- Jones, Robert, 1LT. "OPFOR Reconnaissance Lessons Learned," Red Thrust PB-30-94-2, Fort Irwin, CA: July 1994.
- Kozlik, Michael. "Making a Case for Brigade Reconnaissance Elements," <u>Armor</u> 99 (September-October 1990): 12-14.
- Leonhard, Robert R. "Counter-Reconnaissance Company," <u>Infantry</u> 78 (January-February 1988): 23-26.

- Leuer, Major General Kenneth C. "Commander's Note: Reconnaissance and Security,: <u>Infantry</u>, 78, 4 (July-August 1988): 1-2.
- Lyle, James M., BG "Musicians of Mars," <u>CALL Bulletin</u> No. 90-6 Center for Army Lessons Learned, (Jun 90): 1-24.
- Moore, Scott, "Recon-Pull: A Marriage of 2s and 3s," <u>Marine</u> <u>Corps Gazette</u> 74 (August 1990): 71-75.
- Ozolek, David J. "Counterreconnaissance," <u>Infantry</u> 76 (September- October1986): 34-37.
- Seglie, Lon, Dr. "Winning in the Desert," <u>CALL Newsletter</u> No. 90-7, Center for Army Lessons Learned, (Aug 90): 16-25.
- Seglie, Lon, Dr. "Winning in the Desert II," <u>CALL Newsletter</u> No. 90-8, Center for Army Lessons Learned, (Sep 90): 1-44.

Unpublished Documents

- Center for Army Lessons Learned Bulletin. "All Units Will Have to Breach Scatterable Mines," (No. 1-87), Fort Leavenworth, KS: US Army Combined Arms Training Activity, April 1987.
- Center for Army Lessons Learned Bulletin. "Intelligence:
 Offensive IPB at the Task Force Level," (unpublished draft),
 Fort Leavenworth, KS: US Army Combined Arms Training
 Activity, Feb 1987.
- Center for Army Lessons Learned Bulletin. "Local Security: A Leader's Challenge," (unpublished draft), Fort Leavenworth, KS: Combined Arms Training Activity, July 1987.
- Center for Army Lessons Learned Bulletin. <u>Reconnaissance Lessons</u>
 <u>Learned</u>, (unpublished draft), Fort Leavenworth, KS: US Army
 Combined Arms Training Activity, January 1991.
- Center for Army Lessons Learned. "Scouts Out: Early and Effective," (unpublished draft), Fort Leavenworth, KS: US Army Combined Arms Training Activity, *****
- Prevou, Michael, MAJ. "Reconnaissance: A Matter of Priorities," (unpublished draft), School of Advanced Military Studies, Fort Leavenworth, KS: 1994.
- United States Army Infantry Center and School White Paper.
 "Reconnaissance and Counterreconnaissance Issues," Fort
 Benning, GA: U.S. Army Infantry School, 1987.

Interviews

- Miller, Derek, MAJ, Former Observer/Controller, National Training Center, Fort Irwin, CA, Infantry Company Commander, Desert Storm: 22 October 1994.
- Prevou, Michael, MAJ, Former Observer/Controller, National Training Center, Fort Irwin, CA: 22 October 1994.
- Tibbetts, John R., MAJ, Former Tank Company Commander, Desert Storm: 2 November 1994.